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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/642,518	08/18/2003	Rinze Benedictus	APV31645	1585

24257 7590 07/16/2007  
STEVENS DAVIS MILLER & MOSHER, LLP  
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WASHINGTON, DC 20036

EXAMINER
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MORILLO, JANELL COMBS

ART UNIT	PAPER NUMBER
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1742

MAIL DATE	DELIVERY MODE
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07/16/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/642,518	BENEDICTUS ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Janelle Combs-Morillo	1742	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 01 May 2007 and 02 July 2007.
- 2a) This action is FINAL.                            2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 23-34,38-50 and 52-54 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 23-34,38-50 and 52-54 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All    b) Some \* c) None of:
  1. Certified copies of the priority documents have been received.
  2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

**DETAILED ACTION*****Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on May 1, 2007 and July 2, 2007 have been entered.

***Claim Interpretation***

2. Independent claim 23 mentions 'an ingot consisting of the following composition' as well as 'balance essentially aluminum and incidental elements and impurities, which are at most 0.05% per element, 0.15% total'. Though Claim 23 contains the phrase 'balance essentially aluminum...', said claim was interpreted by the examiner to be consistent with consisting of/closed type claim language.

3. If this interpretation is not consistent with applicant's intended interpretation, please clarify in response to this action.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 23, 24, 26-30, 32-34, 38-50, 52-54 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cassada III (US 5,593,516).

Cassada teaches an aluminum based alloy sheet (typically 0.400 in thick, col. 7 line 16) with 2.5-5.5% Cu, 0.1-2.3% Mg, up to 0.15% Fe, up to 0.10% Si, up to 0.05% Ti (Cassada at claims 1, 2, 6), which overlaps or touches the boundary of the presently claimed alloying ranges of Cu, Mg, Si, Fe, Mn (cl. 23, 38-41, 45, 50, 52-54).

Cassada teaches a process of forming said aluminum alloy by: ingot casting (DC casting, column 4 line 40), homogenizing, preheating, hot rolling with optional reheating as necessary, solution heat treating, quenching, stretching, artificially aging (column 7 lines 6-27). Though Cassada teaches a peak strength T6 type temper, it would have been obvious to one of ordinary skill in the art to apply a T3 or T351 naturally aging temper in order to obtain moderate strength properties while eliminating the need for an artificial aging cycle.

Because Cassada teaches a process of working and heat treating an Al-Cu-Mg alloy that overlaps or touches the boundary of the presently claimed alloying ranges, then it is held that Cassada has created a *prima facie* case of obviousness of the presently claimed invention.

Concerning claims 24, 26-29, as stated above, Cassada teaches a process of working and heat treating substantially as presently claimed.

Concerning the thickness limitations of claim 30, Cassada teaches overlapping thickness of 10 mm (see examples).

Concerning claims 32-34, Cassada teaches said alloy is used for aircraft wing skins or body sheet (column 8 lines 28-29).

Concerning claims 42-44, Cassada broadly teaches up to 0.25% Si can be present in said alloy (column 3 line 40), which overlaps the presently claimed ranges.

Concerning claims 46-49, which mention various properties such as TS, YS, fatigue crack growth rate, because Cassada teaches an alloy within the presently claimed alloying ranges processed substantially as presently claimed, then substantially the same properties are expected to be present.

6. Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Cassada in view of Rioja et al (US 6,562,154 B1).

Cassada does not teach cold rolling or interannealing. However, Rioja teaches cold rolling is effective for further reducing Al-Cu alloys into thin sheets, wherein said cold rolling can include intermediate anneals during said cold rolling (column 6 lines 58-60). It would have been obvious to one of ordinary skill in the art to perform steps of further reduction by cold rolling and interannealing for the process of forming an Al-Cu alloy sheet or plate taught by Cassada, because Rioja teaches that said cold rolling is effective for further reducing Al-Cu alloys into thin sheets.

7. Claim 31 is rejected under 35 U.S.C. 103(a) as being unpatentable over Cassada as applied to claim 23 above, and further in view of "Metals Handbook Desk Edition" p 445-446.

Concerning claim 31, neither Rioja nor Cassada mention rolling said alloy is formed into thick sheets. However, "Metals Handbook Desk Edition", teaches that similar 2024 type Al-Cu alloys can be formed into sheet 0.15-6.3 mm thick or plate 6.3-200mm thick ("Metals Handbook

Art Unit: 1742

Desk Edition" p 445, 3<sup>rd</sup> column) depending on the application (see p 446). It would have been obvious to one of ordinary skill in the art to form the alloy taught by Rioja or Cassada into thick sections, within the presently claimed 25-50mm, because "Metals Handbook Desk Edition" teaches that substantially similar 2024 alloys are formed into thick plate used for aircraft structures where high strength is required ("Metals Handbook Desk Edition" p 445).

***Response to Amendment***

8. In the response filed on May 1, 2007 and supplemental response filed on July 2, 2007, applicant amended claims 23 and 40 and submitted various arguments traversing the rejections of record.
9. The examiner agrees that the instant 'consisting of' closed claim language overcomes the rejections in view of Rioja.
10. However, the rejection in view of Cassada remains above. When the Examiner has established a *prima facie* obviousness, the burden then shifts to the applicant to rebut. *In re Dillon*, 919 F.2d 688, 692, 16 USPQ2d 1897, 1901 (Fed. Cir. 1990) (en banc). Rebuttal may take the form of "a comparison of test data showing that the claimed compositions possess unexpectedly improved properties... that the prior art does not have, that the prior art is so deficient that there is no motivation to make what might otherwise appear to be obvious changes, or any other argument.. that is pertinent." Id. at 692-93; USPQ2d 1901. Applicant has not directed the examiner to evidence of unexpected results with respect to the prior art of Cassada.

Art Unit: 1742

***Conclusion***

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Janelle Combs-Morillo whose telephone number is (571) 272-1240. The examiner can normally be reached on 8:30 am- 6:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on (571) 272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JCM  
July 9, 2007

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